UNITED STATES PATENT AND TRADEMARK OFFICE

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10/822,311	04/12/2004	Zhi-Hai Zhang	39524.9900	2620

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-5 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by

Tuhro et al. (US 4,724,330).

Regarding claim 1, Tuhro discloses a method for calibrating an image-scanning module

scanning a reference sheet said image-scanning module having a first midpoint, said

first midpoint corresponding to a first midpoint coordinate value on said image (Tuhro,

Fig. 4, "Centerline 2950") said reference sheet including a target label (Fig. 3), a first

label corresponding to a first end of said reference sheet and a second label

corresponding to a second end of said reference sheet (see Fig. 3), a distance between

said first label and said second label being a first value, said method comprising:

(a) scanning said reference sheet to obtain a target coordinate value corresponding to

said target label ("sensing a selected feature on the calibration target, and determining

its position with respect to the linear sensor array", Tuhro, column 2, line 51), a first

coordinate value corresponding to said first label and a second coordinate value

corresponding to said second label (Tuhro, Fig. 3);

(b) obtaining a second midpoint coordinate value (Fig. 4, "2730") according to said first

coordinate value and said second coordinate value (Tuhro, see end labels on Fig. 3);

(c) calculating a shift value (Fig. 4, "x-axis offset") as being a difference between said

second midpoint coordinate value (Fig. 4, "2730") and said first midpoint coordinate

value (Fig. 4, "2950") ("By comparing the position of the photosites at which the feature

is actually sensed to an x-axis reference stored in diagnostic memory 54, indicative of

the position of the photosites sensor where the value should have been sensed, e.g.

photosite sensor element 2950, it can be seen that the point I is displaced from its

desired position by a distance corresponding to about approximately 220 photosites.",

Tuhro, column 7, line 9);

(d) calculating a second value as being a difference between said first coordinate value

and said second coordinate value ("Thus, if a line has a known length which would be

detected by a selected number of photosites, the position of the end points of the line

with respect to the endpoints of the array may be compared with stored values for the

same distances", Tuhro, column 7, line 28);

(e) calculating a magnification as being a ratio of said second value to said first value

("comparing the position a selected, detected feature with a desired position for the

feature, determining a magnification ratio based on the comparison", Tuhro, column 2,

line 60); and

(f) adjusting said target coordinate value to obtain a calibrated target coordinate value

according to said shift value and said magnification (Fig. 2, numeral 58).

Regarding claim 2, Tuhro discloses the method of claim 1, further comprising: setting

said target label to correspond to said calibrated target coordinate value (Tuhro, Fig. 2,

numeral 58).

Regarding claim 3, Tuhro discloses the method of claim 1, wherein said step (f)

comprises adding said shift value to said target coordinate value to obtain said

calibrated target coordinate value ("it can be seen that the point I is displaced from its

desired position by a distance corresponding to about approximately 220 photosites. In

accordance with this determination, it may be appreciated that an x-axis offset value

may be entered into the calibration memory which effectively discards or ignores the

data received from photosites 1 to 220 on the array in this manner, the x-axis is

effectively centered with respect to the sensor array 40 since identical amounts of data

on either side of the centerline 2950 will be measured.", Tuhro, column 7, line 14).

Regarding claim 4, Tuhro discloses the method of claim 3, wherein said step (e)

comprises adding said shift value to said target coordinate value ("it can be seen that

the point I is displaced from its desired position by a distance corresponding to about

approximately 220 photosites. In accordance with this determination, it may be

appreciated that an x-axis offset value may be entered into the calibration memory

which effectively discards or ignores the data received from photosites 1 to 220 on the

array in this manner, the x-axis is effectively centered with respect to the sensor array

40 since identical amounts of data on either side of the centerline 2950 will be

measured.", Tuhro, column 7, line 14) and then normalizing said target coordinate value

according to said magnification to obtain said calibrated target coordinate value ("A

feature is detected as described, and a comparison is made between the detected

position and the desired position. Based on this comparison, a number of desired data

points is determined. If the number of desired data points is greater that the number of

photosites available, an interpolation routine is used to create a large number of data

points, according to a "nearest neighbor" or an average of adjacent points. This new

data will be the output image data. The number of points derived from the comparison

of the detected value with the desired value may be stored a magnification offset, which

will serve to provide desired magnification whenever the device is used.", Tuhro, column

7, line 38).

Regarding claim 5, Tuhro discloses the method of claim 1, wherein said step (e)

comprises normalizing said target coordinate value according to said magnification to

obtain said calibrated target coordinate value ("For example, if a selected feature such

the point I is detected by 10 photosites, but desired to be detected by 12 photosites, a

value stored in diagnostic memory 54, a magnification flaw is determined. The device

will store a magnification offset ratio of 1:1.2, a ratio corresponding to the desired

magnification offset. in calibration memory 56. Then, the device will perform an

interpolation routine for every operation to produce the required 600 more data points.

In a typical interpolation routine, this would include generating data for a multiple of the

actual (detected) data points, and selecting a number of this multiple corresponding to

the desired final number of data points. Thus, the desired number of data points would

be provided.", Tuhro, column 7, line 50).

Regarding claim 9, Tuhro discloses the method of claim 1, wherein said image-scanning

module comprises a lens (Tuhro, Fig. 4, "Image Lens").

Regarding claim 10, Tuhro discloses the method of claim 1, wherein said image-

scanning module comprises a photo-sensing device ("photoelectric sensor array for

detecting image information.", Tuhro, column 2, line 19)

Regarding claim 11, Tuhro discloses the method of claim 10, wherein said photo-

sensing device comprises a charge coupled device (Tuhro, Fig. 2, num. 40, "CCD")

Regarding claim 12, Tuhro discloses the method of claim 10, wherein said photo-

sensing device comprises a contact image sensor (Tuhro, Fig. 2).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuhro et

al. (US 4,724,330) and Chiu (US 2003/0112480).

Regarding claim 6, Tuhro discloses the method of claim 1, Tuhro does not disclose

wherein said second midpoint coordinate value is obtained as being an average of said

first coordinate value and said second coordinate value.

Chiu teaches wherein said second midpoint coordinate value is obtained as being an

average of said first coordinate value and said second coordinate value ("the average

value of the minimum sensing value and the maximum sensing value", Chiu, paragraph

19).

It would have been obvious at the time of the invention to modify the invention of Tuhro

to include averaging said first coordinate value and said second coordinate value in

order to obtain said second midpoint coordinate value because this is one of the most

well-known methods of obtaining a midpoint value.

5.   Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Tuhro et al. (US 4,724,330) and Williams et al. (US 5,642,202).

Regarding claim 7, while Tuhro discloses the method of claim 1, Tuhro does not

disclose wherein said first label and said second label are black segments respectively.

Williams teaches wherein the labels are black segments ("present invention has been

described as having solid black target locator symbols", Williams, column 10, line 36).

It would have been obvious at the time of the invention to modify the invention of Tuhro

to include black segments as taught by William's scan image target locator system in

order to "detect the transition from background to target locator symbol" as stated in the

Williams reference at column 10, line 39.

Regarding claim 8, Tuhro discloses the method of claim 1, Tuhro does not disclose

wherein said target label comprises a gray-scale patch.

Williams teaches wherein said target label comprises a gray-scale patch ("The symbols

may be any shade of grey", Williams, column 10, line 38)

It would have been obvious at the time of the invention to modify the invention of Tuhro

to include gray-scale patches as taught by William's scan image target locator system in

order to "detect the transition from background to target locator symbol" as stated in the

Williams reference at column 10, line 39.

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elisa M. Rice whose telephone number is (571)270-1580. The examiner can normally be reached on 8:00a.m.-5:30p.m. EST Monday thru Friday.

Anthony attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on (571)272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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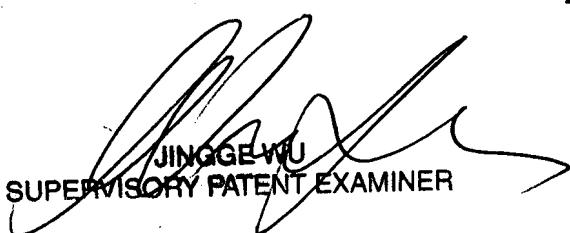
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